The Potential of the Chad-Cameroon Pipeline Project to Promote Sustainable Economic Development

by

Damon Stevenson

Advisor: Dr. Adam Rose

July 21, 2004
Introduction

The Chad-Cameroon Pipeline Development Project in Africa represents the opportunity for two underdeveloped countries to drastically improve their economic status on the basis of Chad’s natural resource endowment of oil and Cameroon’s port area. Previous attempts for countries to secure economic development through exploitation of natural resource endowment due to rent-seeking behavior have often proven to be unsuccessful at best and devastating to a country’s economy at worst. While these past efforts may have failed, careful examination of these failures and planned implementation of improved policies affecting the Chad-Cameroon Pipeline may yield sustainable economic growth for the countries involved.

The objective of this research is to evaluate theories that have been applied to developing economies that utilize their natural resources to foster economic growth. It will then be determined if these theories are applicable in the case of Chad and Cameroon. Another objective of this research is to investigate what methods can be taken to ensure the success of the Chad-Cameroon Pipeline Project. Success, for the purpose of this research, is not being defined in terms of exporting oil, but rather in the more important issue of generating long-term economic growth and stability.

Summary of Literature and Methodology

Throughout this research, I read relevant material regarding theories and studies pertaining to economic development, natural resource abundance, and mineral-rent seeking behavior along with other information that may have been related to the study of the Chad-Cameroon Pipeline. I examined works such as Terry Karl’s *The Paradox of Plenty: Oil Booms and Petro-States* to determine if the books adequately address issues that may be relevant to the Chad-Cameroon Pipeline and to understand the theories pertaining to natural resource development. I read recently published articles such as Donald Norland’s “Innovations of the Chad-Cameroon Pipeline Project: Thinking outside the Box” to gain an understanding of the proposed development in Africa. I also read research journals such as *European Economic Review* and *World Development* to explore the Resource Curse theory and the Dutch disease theory to determine if these theories can accurately be applied to the Chad-Cameroon Pipeline and the possible effects that they may have on future economic growth. To help build a solid foundation for my research, I incorporated the minutes from a United States House subcommittee meeting on the Chad-Cameroon Pipeline and official documents from the World Bank that have been made available to the public regarding financing the Project. I then analyzed the research material to determine if and how it applies to the Project. This information was used to prepare an essay detailing my findings and policy recommendations.

The Conditions of Chad

To understand the significance of the Chad-Cameroon Development Project, one must first understand the conditions of the countries named in the Project. The countries, located in the sub-Saharan region of Africa, offer the opportunity to see whether a proper investment into the natural resources of an underdeveloped country can truly offer the
promise of a better future for its citizens. This opportunity is greatly needed in a place where there is no history of economic stability and little hope for economic growth. Before appreciating the magnitude of this project, an understanding of the miseries of the people in these countries is necessary. Chad, the most important partner in this project, is a country tormented with a past and present so violent that the future success of the proposed Pipeline is constantly challenged.

To say that present-day Chad is undeveloped is an understatement. When it is discovered that sixty-four percent of Chad’s 9.5 million citizens live below the poverty line, it is understandable that the country is the fifth poorest in the world (U.S. House 4). In the 1998 United Nations Development Programme’s Human Development Report, Chad held the 163 position among 174 countries (World Bank 4). The poverty-stricken condition of Chad is further noted in Donald Payne’s statement, “the average Chadian survives on less than 65 cents a day.” The statistics of this country offer an even clearer picture into the grim life that Chadians face on a daily basis. For example, in 2001 the infant mortality rate was 117 per 1000 live births. This number is considered high for even for the least developed countries, where the average is about 99 per 1000 live births, and extremely high for developed countries such as the United States, where the average is about 7 (United Nations). The primary school pupil/teacher ratio is 62 pupils. The ratio of person to physicians is over 30,000, which appears to be almost unbelievable when compared to countries such as the United States where it is about one doctor for every 362 people. This is especially troubling when considering the fact that 76% of the people in this country do not have access to safe drinking water (Ndumbe 76).

The conditions stated in the previous paragraph are rooted in factors that must be given attention because they are possible conditions that may affect the success of the pipeline project. Donald Norland expresses the root of the nation’s turmoil: “Chad, spanning 1100 miles north to south, covers three climatic zones, two major cultural ethnic divisions, accounting for much of the political instability that has characterized its nearly 43 years of independence” (U.S. House 11). A major concern among the investors in the Project is the possibility that ethnic and cultural difference may foster violence that may pose a potential threat to the success of the Pipeline. The countries have often been divided with the “Arabized Muslim North” against the “Christian animist South” (U.S. House 15).

While Chad has experienced a past filled with violence and poverty, the present political conditions are not ideal for an investment of this magnitude. The Project’s future may be much more promising if the government of Chad would change its policies to ensure oil revenues are used to generate sustainable economic development that will aid in eradicating poverty. Careful attention must be given to the Project because not only does the Pipeline represent the largest United States investment in Africa, but, if expectations for oil revenues are correct, the Pipeline’s income has the potential to make up half of Chad’s government revenues (U.S. House 2). If the Pipeline Project reaches its goal of using natural resource endowment to combat poverty, its design may become the model for future developments.

Although the installation of the physical pipeline only began in recent years, oil was first discovered in Chad in 1975 (Ndumde 74). However, the political instability and the internal conflicts prohibited any efforts to successfully promote the oil. It was not until 1988 that Exxonmobil was granted an exploration permit through 2004, which also
included a 30-year concession for oil in Doba field to be placed on international markets (Ndumde 75).

The Pipeline as an International Project

Observers worldwide are following this project because as Gary and Karl state, it is the “biggest international effort to date to focus an oil development project on a poverty reduction outcome” (Gary and Karl 2). The Project has created a great deal of debate due to the fact that several past attempts to use a natural resource to improve economic conditions have not proved successful.

In a subcommittee hearing before the United States House of Representatives, committee chair Congressman Edward Royce stated that the development of natural resources in Africa has previously created little if any “lasting benefit” (U.S. House 1). Mr. Royce stated that one reason was corrupt government officials’ often misuse funds that are generated from natural resources. He pointed out that an example of this is evident in studying the country of Nigeria, where the standard of living is lower today than it was 25 years ago. This statement is especially troubling because it alludes to the fact that over 300 billion in oil revenues has not benefited the citizens of this country. While the exact usage of the money has not been completely accounted for, Mr. Royce informed everyone that over 1 billion was discovered in Swiss bank accounts (U.S. House 1). Committee member Donald Payne further stated that oil revenues in Sudan had helped finance the purchase of “Blackhawk-type helicopters that fired on a line of 4,000 people waiting to get food, killing 40 of them” (U.S. House 3).

The United States has taken a great interest in this project for several vital reasons. Donald Norland, a U.S. ambassador to the Chad, reminded the U.S. House that, in a time where constant attention is being given to natural security due to acts of unprecedented terrorism, the success of the Project and those that may follow it are beneficial as the U.S seeks to expand its possible sources of energy (U.S. House 24). It is also noted that by the year 2015, the continent of Africa may supply up to 25% of U.S oil (U.S. House 2). Ahmedou Ould-Abdallah, executive director of Global Coalition for Africa, further reminds the House subcommittee hearing panel that the Project addresses “two of the main root causes of terrorism: political exclusion and poverty” (U.S. House 24).

Fears about Potential Pipeline Success

In order to fully examine the possibility of success for this project, an assessment of potential hindrances must be made. One of the greatest contributors to the success or failure of this project is the government of Chad. As has been mentioned and will be discussed later, if the government is unproductive, it does not matter how much money is generated. If revenues are not used in an appropriate manner to address issues such as eliminating poverty and generating economic growth, investments will prove useless. Great concern should be given to policies of the Chadian government because as Peter Neary and Sweder Van Wijnenbergen found in a major study, “…a country’s economic performance following a resource boom depends to a considerable extent on the policies followed by its government” (Terry 6). Some economists claim that it is bad
governmental policy that produced the greatest negative effect on economic growth, not theories such as Dutch Disease (Davis 1769), which will be discussed in detail later in this paper.

To help address investor concerns, the World Bank has taken a great responsibility to ensure that the Project is successful. Although the World Bank is providing only a small percentage of total funding for the project--about 6%--it is providing financing that the two countries involved might not otherwise have (World Bank 37). Recognizing that improving the economic growth rate of Chad will help the World Bank with its efforts to eradicate poverty, it has taken a leadership role in ensuring that all parties involved, especially the government of Chad, are held accountable for the success of the Pipeline Project.

Already, the World Bank has had to intervene several times to encourage the government of Chad to comply with policies that will aid the success of the Pipeline. For instance, economic growth in countries is often associated with a certain amount of democracy, which has been somewhat lacking in Chad. In 1999, Ngarlej Yorongar, a deputy in Chad’s National assembly was arrested and detained for 9 months because he opposed the project. The World Bank had to intervene to gain his release (U.S. House 13). Again in 2001, the World Bank president had to threaten to “withdraw support” because Chadian police arrested 6 opposition candidates after the presidential election.

Can Natural Resources Be Converted into Development?

It was previously stated that many past efforts to generate economic development through the marketing of a country’s natural resource have failed. Economists have long debated whether or not natural resources truly help a country’s economy over an extended period of time. For example, a study by Sachs and Warner “shows that states with a high ratio of natural resource exports to GDP in 1971 had abnormally slow growth rates between 1971 and 1989” (Ross 300).

Examining the success and failures of previous attempts to generate economic development through the marketing of natural resources may help avoid repeating these same mistakes with the pipeline development and thus give it a higher chance for success.

The beginning of countries with problems relying on mineral rents can be traced as far back as Spain during the 16th-century (Karl 33). At one point, Spain was a dominant player in international markets due in part to vast endowments of gold and silver. However, just as countries in modern times seem to struggle with the ability to manage revenue in an efficient and responsible manner, Spain “was unable to manage great wealth produced by mineral rents” (Karl 33). The issue of proper usage of revenue generated by mineral rent has adversely affected economic development for many countries. More importantly, if proper controls are not in place in Chad and Cameroon, the same results may be repeated.

Chad has already given indications that its government may not know how to properly use income to stimulate growth. For example, Chadian government used $4.5 million of $25 million “signing bonus” to buy arms. World Bank and IMF addressed this issue by working with Chad to establish a revenue management plan to ensure that future revenue created from the pipeline project would be used in a manner that was consistent
with the goals of generating economic development for the purpose of eradicating poverty (U.S. House 13). This misallocation of funds by the Chad government substantiates an observation noted by author Terry Karl, “The abrupt flow of petrodollars into national treasuries, combined with decisions to increase government spending, had a profound impact on the state. Oil money was power…” (Karl 26). This is especially disturbing because as we examine reasons other economies that relied on mineral rents failed, we discover that 16th-century Spain also used precious metals to fund the expansion of its army (Karl 36). The army grew to be over 15 times its original size in a twenty-year period. As the army grew, so did the size of the budget needed to accommodate its needs. Eventually Spain’s expenses were greater than its income. The case of Spain validates the World Bank’s alarm over Chad using large portions of revenues to increase its military strength.

Another parallel that Spain experienced, which can still be seen in present times, were the dramatic short booms that initially increased revenue but were not able to be sustained over a period of time (Karl 34). Some economists have noted that “international commodities markets were subject to unusually sharp price fluctuations. States that relied on commodity exports would find these fluctuations transferred to their domestic economies, making government revenues and foreign supplies unreliable and private investment prohibitively risky” (Ross 301).

It should also be pointed out that although Spain experienced great wealth, the country did not understand the difference between its economic and political responsibilities (Karl 34). This seems to be a distinction that most governments that receive a great amount of income from mineral rents cannot make.

Another problem that natural resource endowed countries seem to repeatedly incur is the inability to manage revenue. In the past, countries that experienced sudden income growth from oil dramatically increased governmental expenditures. In efforts to catch up with other economies, government officials would overstress the country’s resources to provide a higher standard of living for their citizens. Governments must remember that it is possible to overspend even with growing oil revenues (Karl 27). While some governments had good intentions in allocating funds for their budget, they sought economic development erroneously by “embarking on ambitious and expensive state-financed industrial programs” (Karl 25). The World Bank has even noted from previous experience that “a large influx of revenues into the economy through increased government earnings can result in distortions and significant waste” (World Bank 21).

Studies have shown that governments that primarily rely on natural resources to plan economic growth have usually been poor policy planners with everything from a “sugar mentality” (used to describe states that relied too heavily on sugar exporting) to a “get-rich-quick mentality” (Ross 309). It appears that economies with natural resources dependency encounter problems because the natural resource endowment apparently gives government leaders and fiscal planners a false sense of security. Governments will often use revenue from oil as a bandage for industries that are not profitable. However, when oil revenues fall below estimations that were used to plan budgets, programs that have been designed to subsidize other sectors become damaging to a country’s fiscal status (Karl 29). Developing countries seem to embrace the misguided notion that the marketing of their natural resource endowment is a cure-all for all of their economic disparities. The history lessons of economic development through natural resource
abundance often teach otherwise. This reality has been proved throughout the centuries by governments whose ignorant philosophies regarding means of securing and promoting development actually hinder economic growth in the long run.

There are many reasons why governments that rely on export sectors often plan poorly. When most of a country’s revenues come from external sources and not taxes, government officials have a tendency to “become less accountable to the societies they govern” (Ross 312). These states are often undemocratic in practice and provide poor records for public examination. This approach has been used to describe many of the “commodity-exporting states of sub-Saharan Africa.” Ross makes reference to Mahdavy, who states that government officials become overly optimistic and at times attempt to protect personal or political interest rather than promote long-term economic development. Ross also states that “rentier states face little social pressure to improve their economic policies, since their low taxes and generous welfare programs discourage opposition groups from mobilizing around economic issues.” Ross points out that all of the theories are based on the conclusion that when states gain revenue, they lose the desire to seek other sources of revenue, and thus have poorer economic policies than those states that must continually use taxes as a means of income.

What is the Chad-Cameroon Pipeline Development Project?

The Chad-Cameroon Pipeline is a development project led by Exxon, Petronas, and Chevron to extract and market about 1 billion barrels of crude oil in the Doba region of Chad (Ndumbe 75). Esso Chad will be the project manager and operator (World Bank 30). The original private investors were Exxon, Self and Elf; however, after Self and Elf opted out, Exxon recruited Petronas and Chevron to invest (World Bank 29). While the private sponsors have estimated that there are around 917 million barrels of crude oil in the reserves, other predictions say there are 570 million proven reserves with a possibility of 684 million barrels (World Bank 28).

The project involves the drilling of over 300 wells, 290 producing wells and 25 water disposal wells that will extract and pump crude oil through a reinforced pipeline, buried 3 feet below ground that is 30 inches thick and 1,070 km (663 mi) in length, from Doba oil to Cameroon’s port at Kribi. Then the oil will travel through an 11 km off-land pipeline to an off-shore floating storage vessel where it will be transported to world markets (World Bank 10). The floating storage vessel will be a converted crude oil tanker with a capacity of 2 million barrels of oil (World Bank 51). At its peak, the pipeline will produce about 225,000 barrels a day (U.S. House 6). The three oil fields will all include oil, water and gas facilities and pipelines (World Bank 51). The wells will use an electric pump that is situated one mile below ground. The substance collected will flow from field manifolds to gathering stations where the oil and water will be separated. Wells will also be used to re-inject the water back into aquifers in the Kome, Bolobl and Miandoum fields (World Bank 51). An operations center will also be constructed which will include: a central treating facility, an electric power generation plant, warehouse, maintenance/operations training center, airstrip, administrative offices, small medical clinic for workforce, single status camp, and the first pipeline pumping station.

How will the Project be Financed?
The total cost of the Project is reported to be about $3.72 billion (US dollars). The cost will be divided among the private sponsors and the countries involved. The cost has been divided into two systems: the Field System and the Export System. Various sources give conflicting numbers of the actual cost, therefore all numbers in this section should only be considered estimates and not exact. The Export System, which Chad and Cameroon are responsible for a portion of with the private sponsors providing the remaining needed finances, will cost about 2.2 billion. The two countries have established TOTCO in Chad and COTCO in Cameroon to oversee their responsibilities throughout the Project (World Bank 13). Chad and Cameroon have received about $140 million in loans from the World Bank and the European Investment Bank to aid in funding their portion (U.S. House 6). The World Bank is loaning the countries the money for “environmentally sustainable development” (World Bank 1). Private sponsors will finance the Field System, which includes Developmental Drilling, the Field Pipelines and Operations Center, and the acquisition of land (World Bank 11). The investment by Exxon, Petronas, and Chevron will be about 2,604 million (World Bank 2).

How will Wealth be Used?

The Project is predicted to generate around 1.67 billion for Chad and about $550 million for Cameroon over a 28-year period if all goes as planned (World Bank 24). For every year, that means Chad will receive about $60 million in annual revenues during the life of the Project and Cameroon will receive about $18 million annually through corporate income taxes, royalties, and dividends (World Bank 25, 26). For Chad, the revenue to be generated is sensitive to factors such as the price of oil and the actual amount of reserves. For Cameroon, the amount of revenue to be generated is sensitive to changes in the reserve level. The World Bank is assisting in providing financing because it feels the Project will help Chad and Cameroon reach the two countries’ goals of promoting economic growth and reducing poverty. The goal of the Project is to see “an increase in Chad of at least 40 million per year in petroleum-financed budgetary expenditures on education, health, infrastructure, rural development and the environment and water resources in FY2005-2009.” The goal for Cameroon is an increase of “40 million per year in FY2005-2007 in petroleum-generated revenues available to finance priority development expenditures” (World Bank 4).

On December 30, 1998, the Chad Parliament established laws governing the use of funds generated by the Pipeline Project. The government of Chad has “adopted a petroleum revenue management program and has articulated a Strategy for the Management of the Petroleum Economy” (World Bank 6). According to page 6 of a project appraisal document for loans from the International Bank for Reconstruction and Development, some of the objectives for the program are:

1) Allocation of the bulk of oil revenues to priority poverty reduction activities, mandatory long-term savings of a portion of the revenues, explicit commitment and disbursement norms, and oversight and monitoring mechanisms.
2) Capacity-building initiatives to increase Government capacity to use oil revenues effectively within key sectors and to manage their impact on the economy, including the development of sectoral expenditure programs.

3) Bank support and monitoring throughout implementation to promote the allocation of resources to effective development activities, as well as reporting/auditing requirements.

This program is designed to ensure that funds generated will be used efficiently for the purpose of fighting the poverty that is so deeply embedded into the lives of the people of Chad. The program earmarked revenues to be used as follows: 72% of the funds will be allocated to high priority national programs for public health, education, infrastructure such as roads, agricultural development, environmental improvements and water resources; 4.5% of the revenues will be specifically dedicated to development programs for the communities in the oil producing region; 10% will be invested in a savings account for future generations; and 13.5% of the oil revenues will fund Chad's operating and investment expenses associated with the development of the oil. A major goal of the program is to provide financial transparency for the revenues and expenditures of the government so that it will hopefully have a pleasant ranking by Transparency International, unlike Cameroon, which in 1999 was ranked as the most corrupt state in the world (Ndumbe 85).

**Direct and Indirect Economic Impacts**

In addition to the sizeable revenue that the Project will produce over its almost thirty-year life span, there will be several direct and indirect benefits for the countries of Chad and Cameroon. When the 1st Quarter Development Report for 2004 was released, it stated that employment for the Pipeline Project was just over 4,500 (Chad 49). The peak employment period was in 2002, when the Pipeline Project employed about 13,000 people. The Pipeline Project has hired about 57% of its workforce from Chad and 14% from Cameroon. The Project will require more professional-level workers as it shifts from construction to the operational stage, and it has set a goal of 80% local employment within eight years of becoming operational. For the 1st quarter of 2004, wages paid to Chadian and Cameroon workers were about $4.8 million and about $0.9 million dollars, respectively. In addition to wages, employees also have the opportunity to receive training in the English language and how to use computer software (Chad 52). Throughout the upcoming 28-year operational stage of the Pipeline, employment is estimated to remain steady at about 500 people, with the goal being 85% locals.

The Pipeline Project has also pumped about $45.5 million into businesses in Chad and Cameroon for goods and services needed for the Project for the 1st quarter of 2004 (Chad 57). That brings total spending with local businesses for the Pipeline Project to well over $800 million. Managers and contractors now have an available database that lists local businesses and details the goods and services that these local businesses offer. A database has also been compiled by COTCO, Cameroon’s company in the Project, which lists over 43,000 nationals resumes for contractors to utilize when hiring (URS 15). Contractors of the Pipeline are encouraged to give business to local suppliers in Chad and Cameroon whenever possible. The International Finance Corporation (IFC) has established capacity building programs in Chad and Cameroon to aid small business in
securing contracts and projects from the Pipeline. IFC is working to ensure that local business firms have the operating capital and employee resources to compete for supplying the various goods and services that will be needed as a result of the Pipeline. Over 3,300 clients have received loans to-date.

Thus far, contracts awarded as a result of the Pipeline have transferred about $412.8 million total into businesses in Chad and about $420.5 million total into businesses in Cameroon. For example, the Development Project has directly benefited industries such as the trucking businesses of Chad and Cameroon. During peak times of the Pipeline Project, over 350 trucks from the two countries carried 18,500 loads of the 350,000 tons of the material and equipment needed to complete the actual pipeline (Chad/Cameroon Development). The transporting of these goods meant that hundreds of kilometers of roads and bridges had to be upgraded or repaired. Included in these upgraded roads was the only road that linked Chad’s capital to the southern region of the country. These roads can now be used by all of the people of Chad and Cameroon. This will have a major impact on economic growth, because it will expand the area that individuals are able to travel and thus make access to new markets less difficult.

As can be seen, the Pipeline will create a great deal of employment opportunities in industries directly related to the Pipeline, such as construction and trucking, and as well as in support industries such as agriculture and security. Local food suppliers and eateries have already benefited greatly from the Pipeline. During the construction stages, many local companies supplied food to the large numbers of employees working on the Pipeline. As a result of the Pipeline Project, industries such as trucking and food will be required to hire additional workers to meet the demands for increased supply. Also, contractors will be required to hire additional workers for projects such as improving roads and other infrastructure. It should also be noted that because Cameroon is a developing country, as market demand grows for sectors such as agriculture, it is likely that an increase in productivity will result to help meet the increased demand. Also, as the government’s budget grows, it will be able to hire additional workers and increase government purchases and spending, creating new opportunities for local businesses.

In addition to the vast financial rewards that will be a direct result of the Pipeline Project, consideration should also be given to the numerous indirect and induced incentives that will be gained from the multiplier effects of the Pipeline Project. Since no sector of an economy is completely independent, a significant shift in demand of one sector will stimulate an increased demand in other sectors. In 2002, ExxonMobil commissioned URS to complete a study detailing the multiplier effects of the Pipeline Project that would be experienced by the economy of Cameroon. An input-output (I-O) analysis was used to as the basis of calculations. It represents a “static, linear model of all purchases and sales between different sectors of an economy based on technical production requirements and related accounting balances” (URS 11). The model will assist in predicting how many indirect jobs will be produced in various sectors as a result of every direct job on the Pipeline Project.

The study by URS found that the Project will have far-reaching gains that will benefit several sectors in Cameroon’s economy. For example, during the construction phase of the Project, the study stated that Cameroonian nationals and expatriates are projected to spend over 21 billion CFA (URS viii). The study also found that the 4,192 construction employees will indirectly create about 43,482 jobs in the economy. This is a
multiplier effect of 10.37 (URS 34). URS predicted that about 137 billion CFA of goods and services and supplies will be supplied from businesses within Cameroon during the construction phase. The procurement of goods and services will result in direct employment of 20,031 individuals, which will simultaneously stimulate 143,537 jobs in the economy. This is a multiplier effect of 7.17. The combined jobs will create about a 3% increase in employment during the construction phase.

Cameroon is expected to benefit in the sum of 99 billion CFA from wage expenditures during the operation phase, with an additional 1.2 billion CFA being spent by expatriates. The estimated 214 Pipeline operational workers will create about 1,900 jobs overall. When all factors are considered, this translates into a multiplier of 1.94 (URS 38). The country will also see an additional 41 billion CFA that will be spent to purchase goods and services. Total employment from procurement is expected to produce around 7,300 long-term jobs. This is a multiplier of 1.71. The study by URS concluded: “Output impacts are estimated at around 427 billion CFA during construction (a 2.43 multiplier), and around 52 billion CFA per annum over 28 years during the operational phase (a 3.09 multiplier).” For Cameroon, this translates into a 2% increase in GDP per annum during construction and 1% during the operational phase (URS viii). Similar gains are likely to be experienced in Chad; however, they will slightly differ primarily because Chad has a smaller portion of the Pipeline and all of the developmental wells where the oil is actually being extracted from the ground.

The construction and development of the pipeline will cause about 150 households to be relocated (World Bank 30). A Chad Resettlement and Compensation Plan has been established to aid these households. In the middle of 2002, about $12.4 million dollars have been paid in cash and land to those affected by the pipeline (Chad Export 33). Significantly, many of those affected have chosen compensation in the form of ox-ploughs and donkey carts (World Bank 31).

Other major rewards of the Project are highly noticeable and far-reaching. For instance, it will help target the true causes of violence, poverty, and mismanagement (U.S. House 33). The World Bank has noted that the Project will benefit areas such as education and health (World Bank 13). Some of the buildings and equipment used to train workers have been donated by private investors to local communities. A Community Compensation Program has also been established. The Program currently has 17 community micro-development projects under construction and 42 additional projects up for bid. It has also completed over 25 education, community facility, and water projects. It is currently in the process of building a new primary school in Miandoum, Chad (Chad Export Project Report 34). The Program plans to build a total of 27 new classroom facilities, 3 new primary and secondary schools, and provide funding for additions at 14 current schools. It has also provided classroom material ranging from desks to computers. Another reward of the Project has been a new water system for the town of Bebedjia (Chad Export Project Report 69). As a result of the Project, a new administrative building has been constructed in Cameroon. The hospital in Kribi benefited after very large quantities of medicines that contractors had not utilized were donated (Chad Export Project Report 61). The Project is also partially funding the establishment of a center for infectious diseases in Chad.

A survey released in the 1st quarter report for the Project found that the Development has thus far “significantly improved living conditions for the people who
live in the oil field and pipeline route areas” (Report 41). The survey found that Project-area villages scored as high as 8.7 and no lower than 6.5 on a socioeconomic index, compared to villages outside the Project-area that scored an average of 3.6. A survey by Cogels and Koppert found, “In all but one of the Project villages, between 9% and 48% of households along the road/pipeline and in the OFDA reported having received compensation from the Project” (Cogels 2). People in the project area have everything from improved diets to better housing. Cogels and Koppert also found that the Project’s greatest impacts were in areas such as quality of housing to employment opportunities (Cogels 5). Children living in the Project area were less likely to have experienced diarrhea or fever in the previous week before the study as opposed to children outside the Project area. Ninety-percent of the homes in the Project area have mosquito nets compared to ten-percent of those outside the Project area (Cogels 6), because Project sponsors have donated thousands of mosquito nets to local residents.

Local Concerns

If the Project is to have any hope of success, careful consideration must be given to address the concerns that the local people may have about it, since these individuals will be the ones most directly affected. According to the project’s website, a large number of public meetings were held with over 30,000 people involved. Tom Walters, Vice President for Development in Africa for Exxonmobil, testified before a U.S. House subcommittee, “Tens of thousands of people in Chad and Cameroon had the opportunity to express their views on the project in over 1,800 public meetings” (U.S. House 6). It should be noted that he stated people had the “opportunity” to speak and not that they actually spoke. In countries that have been devastated by political and civil unrest such as Chad, individuals are often apprehensive about voicing unpopular opposition without fear of attack. It was previously stated that a deputy in Chad’s national assembly was arrested because he opposed the project. Although he was released after the World Bank intervened, incidents such as this one often silence the voices of those individuals who have negative feelings about the Project. However, in March 2001 Ngarlejy Yorongar filed a complaint “about company activities and attitudes at the site of the drilling operations” (Norland 56). Yorongar was disturbed by the project because he felt that it “constituted a threat to local communities, their cultural property and the environment.” He also believed that a proper “environmental assessment” of the project had not taken place and therefore the local communities were not adequately informed. However, after the World Bank investigated, they did not find the complaint was valid. A great deal of the criticism that has been expressed has been about the implementation of the project and “not the actual project itself” (U.S. House 14). There have also been concerns about the indirect effects of the pipeline primarily the far reaching environmental disruption being done.

Environmental and Safety Concerns

A project of this nature will certainly have drastic effects on the surrounding environment. However, careful planning can minimize these effects. Environmental impacts must be considered starting at the point of origin where the oil will be extracted
until it reaches its destination of the off-shoring loading facility at the port of Kribi and the over 600 miles between the two points. Anytime substances such as oil are being transported, the possibility of a spill can quickly become reality. Spill prevention and spill reaction plans must be in place because an oil spill could be devastating to any natural environment. Areas where the project will cross bodies of water must also be noted. The pipeline will cross the Mbere River, which flows into the Logone River, which flows into the River Chari, which empties into Lake Chad (World Bank 32). As can be seen, a spill can have far reaching effects.

When Esso Exploration and Production Chad Inc. released the Project Report for the 1st quarter of 2004, they noted that field monitors had found seven Environmental Management Plan non-compliance situations (Chad Export Project 15). The report also stated that two minor spills had occurred. The first accident happened when a moving tanker truck began leaking and the other occurred by the Floating Storage and Offloading vessel (Chad Export Project 16).

The 1st quarter report also stated that three people have died as a result of the project. Two employees of a trucking company working for the project were killed on a public roadway (Chad Project Report 16). A grader operator was killed when the gearshift of the grader was knocked out of place, and the grader ran over the victim (Chad Project Report 26). Other injuries received during the first quarter range from a cut finger to a head injury suffered by guard attempting to stop thieves (Chad Project Report 27). The report also noted that there have been 401 traffic accidents due to the project.

Are Dutch Disease and Resource Curse Theories Applicable?

While the Chad/Cameroon Pipeline Development Project appears to be very economically rewarding for the countries involved, careful consideration must be given to past developmental failures to ensure success. As has been noted, Dutch Disease and the Resource Curse theories have been listed as reasons why previous attempts to convert natural resource endowments into economic growth and long-term stability have failed. Let us now examine the applicability of these theories to the case in point.

For the last 50 years, economists have argued whether the marketing of a natural resource endowment could significantly improve a country’s long-term economic situation. In examining the 1973 oil price shocks, Karl Terry concludes that, “projected incomes [from oil] could not carry the burden of development for more than several decades” (Terry 18). Often not only does the marketing of natural resource endowments fail to yield long-term economic growth, but some studies actually hint that it may retard economic growth. Thorvaldur Gylfason states, “[for] most countries that are rich in oil, mineral, and other natural resources, economic growth over the long haul tends to be slower than in other countries that are less well endowed” (Gylfason 848). For example, an analysis of OPEC countries found that “GNP per capita decreased by 1.3 percent per year on average during 1965-1998 compared with 2.2 percent average capita growth in all lower-and middle-income countries.”

One major problem with natural resource development is that it may discourage productivity and investment in other sectors. In the past, governments have taken resources from other sectors to promote the marketing of their natural resource
endowments. This is especially dangerous when children are encouraged not to attend school but rather to work in minimal jobs to make money. Chad, which already has a shortage of qualified professional in many fields, experienced problems when teachers began to abandon their jobs in order to seek work on the Pipeline (U.S. House 32).

The problems that have been repeatedly experienced by natural resource exporting countries have become known as the Resource Curse theory. This theory states that “a mineral boom is a net economic loss, when the present values of the positive effects of the boom are more than offset by the present value of negative effects” (Davis 1768). The negative effects are greater when certain conditions occur. Davis notes that mineral-dependant economies do not bear price shocks well. Sudden drastic price shocks can have grave consequences on economies. A price shock may easily be passed on to other sectors of an economy, thereby paralyzing the entire economy. While multiplier effects can be extremely positive to an economy, they can also have severely negative effects. Just as wise financial planners encourage individuals to diversify their portfolios, so too must countries diversify their economies. Another problem that the Resource Curse theory points out is that rent-seeking governments often focus fewer resources on social services that may be badly needed in a developing country.

Dutch Disease is another recurrent condition in mineral-exporting countries. It is a condition “whereby new discoveries or favorable price changes in one sector of the economy, for example, petroleum, causes distress in other sectors, for example agriculture or manufacturing” (Karl 5). The Dutch Disease seems to appear when there is a reallocation of resources from one sector to another. While one sector may see growth, this is done at the cost of other sectors seeing a reduction in output. Karl notes that the disease often promotes a rapid growth of “nontradeables while simultaneously discouraging industrialization and agriculture.” The key to avoiding the Dutch Disease appears to be prudent resource allocation (Davis 1768). However, governments should exercise caution when intervening in economic activities to ensure that the motivation is to help promote growth and stability, not for political or person reasons.

**Recommendations for Reaching Project Goals**

It has been the goal of this research to fully examine the Chad-Cameroon Pipeline so that recommendations may be offered that will improve the likelihood that the Project will aid in generating long-term sustainable economic development. Although this Project has the ability to create a new world for the people of Chad and Cameroon, it must be remembered that oil wealth generally lasts as long as oil endowments. Since no one knows that exact date that oil reserves in Chad will be depleted, the government of Chad should carefully plan how it will use the new wealth.

If Exxonmobil is serious about its long-term presence in Chad, it should consider building a refinery. Due to the fact that published reports by Exxonmobil show encouraging signs of other possible oil reserves, a refinery would create a significant number of long-term and higher-paying jobs that could have a very positive effect on the economy. A refinery would assist Chad in securing a place on the world market. A refinery would also benefit ExxonMobil by helping the company’s increase its very small presence on the African continent. This is important for all entities involved as Africa begins to supply larger quantities of oil to international markets. At the present moment,
refineries in Africa only have an output of about 2,800 thousand barrels per day. Currently, there are very few specialized refineries in the world that have the capability to refine oil with the acidic content of that found in Chad. Texaco had to spend $12 million to upgrade its refinery in Wales to handle the oil.

It is vital that Chad’s government use revenues created from the oil to improve productivity in others sectors that could in time generate additional long-term economic growth and stability. For example, a percentage of revenues from the Project should be directed at improving agriculture. This will allow Chad to reach two goals: the alleviation of hunger and strengthening of the GDP. The marketing of agriculture products to world markets could yield major results, especially due to the fact that agriculture is currently about 35% of Chad’s GDP. If Chad is to be able to compete globally, the country must invest in technologies that will improve efficiency and increase productivity. This combined with Chad’s number of workers willing to accept minimal wages could give the country a competitive advantage. The government could also use the oil revenues to implement social programs designed to properly distribute wealth.

Since sectors such as agriculture generally do not produce a large number of high income jobs, the government should also focus on other sectors that produce goods that could be exported to world markets. Diversifying the economy will also assist it in becoming more stable. Cotton textiles can be made at relatively low cost in Chad and sold to world markets. Chad should focus attention on exporting those goods that it can produce at a comparative advantage with respect to other nations. Also, reports indicate that mining could prove to be a profitable venture for Chad. Since the country does not own the resources to build the needed infrastructure for a mining industry, incentives should be given to attract foreign investors. Chad could begin to market its mining abilities to world markets.

The World Bank can also greatly assist by continuing to provide support for the governments of Chad and Cameroon. Since the nations are still relatively unindustrialized, their leaders may not know how to plan and implement government budgets. Therefore, the World Bank should make it a priority to educate these individuals in financial planning. The World Bank should design educational programs for government leaders so that they will be informed as they allocate government revenues. Due to the fact that mismanagement has repeatedly been a problem in the past, this approach is likely to prove very beneficial.
References

“Chad/Cameroon Development”  
http://www.essochad.com/Chad/Construction/Pipeline/Chad_Pipeline.asp  

Chad Export Project Report #14. 1st Quarter 2004  
<http://www.essochad.com/Chad/Files/Chad/14_allchapters.pdf>

Cogels, Serge and Koppert, George. “Socioeconomic Monitoring Survey in the Chad Oil Field Development Area and Pipeline Corridor” Paris and Brussels (2004).


[http://hdr.undp.org/reports/global/2003/indicator/indic_72_1_1.html]

URS. “Chad-Cameroon Development Project Economic Impact Assessment of Cameroon ExxonMobil.” 2002.

U.S. House of Representatives The Chad-Cameroon Pipeline: A New Model For Natural
